ÉCOLE DE GESTION **TELFER** SCHOOL OF MANAGEMENT

Telfer Graduate Research Programs' 5th Annual Thesis Competition

Friday February 7th, 2025

9:15 AM – 3:00 PM

DMS 4101

AGENDA

9:15	**9:30**	**Coffee and muffins**
9:30	**9:35**	**Welcome**
9:35	**9:40**	**Message from the Dean:** Dr. Stéphane Brutus
9:40	**9:45**	**Message from the Vice-Dean (Research)**: Dr. Silvia Bonaccio
9:45	**10:15**	**Keynote Speaker**: Dr. Madeline Toubiana Crafting Your Career: Agency, Serendipity, and Researcher Identity
10:15	**11:15**	**Oral Presentations** – Session 1 *Shahryar Moradi* *Maryam Vahabi* *Avery Hughes* *Tarek Khalil*
11:15	**11:30**	**Break** (15 minutes)
11:30	**12:30**	**Oral Presentations** – Session 2 *Danielle Cruise* *Meg Schwellnus* *Amanda Kutenski* *Matin Najarashtiani*
12:30	**13:30**	**Lunch** (1 hour)
13:30	**15:00**	**Poster Session** *Soroor Motie* *Shaista Jaffer* *Jiaxiang (Leo) Wang* *Tin Pham*

KEYNOTE SPEAKER: Madeline Toubiana

Desmarais Chair in Entrepreneurship

Crafting Your Career: Agency, Serendipity, and Researcher Identity

In her keynote address, Dr. Madeline Toubiana will explore the dynamic interplay between personal agency and serendipitous events in shaping a researcher's career trajectory and identity. Drawing from her personal experiences and her extensive research on the role of emotions, stigmatization, and entrepreneurship in social change, Dr. Toubiana will discuss how individuals can exercise agency in their career decisions, while also acknowledging the unpredictable opportunities that arise serendipitously. Join us for an inspirational discussion of what early career researchers can do to progress in their careers, what not to stress over, and how to stay open and intellectually curious.

Bio: Madeline Toubiana is a Professor of Strategy and Organization and the Desmarais Chair in Entrepreneurship at the University of Ottawa. Her research examines the struggles between people and institutions, with a particular emphasis on the role emotions, stigmatization, and entrepreneurship play in either impeding or catalyzing social change.

Her research extends across diverse domains, ranging from academia to marginalized and stigmatized populations. As such, her research portfolio encompasses a wide array of subjects, including social enterprises, the criminal justice system, the sex trade, unemployment, non-profit organizations, cannabis, and taxi-driving. Within these contexts, she focuses on amplifying the voices and experiences of underrepresented groups such as women, LGBTQ+ individuals, people with disabilities, seniors, and immigrants.

Her research has been published in the top journals in the field including *Administrative Science Quarterly*, *Academy of Management Journal*, *Academy of Management Review*, *Academy of Management Annals*, *Annual Review of Sociology*, *Organization Studies*, *Journal of Management Studies*, *Journal of Management History*, and *Journal of Management Learning*, among others. She is the associate editor for *Organization Theory*, a field editor for *Journal of Business Venturing*, and on the editorial review board for *Administrative Science Quarterly*, *Academy of Management Review*, *Academy of Management Journal* and *Organization Studies*.

MASTER OF CEREMONIES:

Shaista Jaffer

Shaista Karim Sadrudin Jaffer is a doctoral candidate in finance at the Telfer School of Management. Her research focuses on the intersection of corporate finance and labour economics, exploring how financial strategies influence workplace equity and dynamics. She is supervised by Dr. Ali Akyol, under whose guidance she is examining the strategic use of share repurchases and their implications for labour relations. During her studies to earn an MSc in Finance from Telfer, Shaista published a book chapter in *CryptoFinance* and explored Bitcoin's role as a hedge during the COVID-19 pandemic. Last summer, she published two chapters in an open educational resource, *The FinTech Explorer*. She has also designed and taught an undergraduate course, "FinTech," and created a junior high level mini-course, "AI & Business: What's the Link?" to introduce young learners to the transformative role of technology in business. Outside of the university, Shaista is a founding member of All Seasons Indian Catering, Tree of Africa Foods, and SKJ Superior Solutions Ltd. Her drive to connect rigorous academic research with real-world applications continues to shape her academic journey and entrepreneurial pursuits.

JUDGES:

Dr. Syrine Sassi
Associate Professor
Power Corporation of Canada – Paul Desmarais Professorship in Finance

Syrine Sassi earned her PhD in Finance from the University of Paris Est Créteil, Val de Marne, in 2017. Before joining the University of Ottawa, she was an Associate Professor of Finance at Paris School of Business. She was a Visiting Scholar at other research-intensive institutions such as Hong Kong Polytechnic University. She also held faculty position at South Champagne Business School. Professor Sassi's research work explores complex issues in corporate financial management and governance, with a particular focus on the impact of regulatory environments and product market competition on financial decisions and environmental sustainability. Her work has been presented in a wide range of

international conferences, earning recognition with several awards. Her research papers are published in refereed journals including the *Journal of Corporate Finance*, *Journal of Financial Research*, *European Financial Management*, *Journal of Management and Governance*, *Finance Research Letters*, and *Global Finance Journal*. Professor Sassi was the lead organizer of several international conferences and workshops such as the 13th International Conference of the Financial Engineering and Banking Society, the 2024 International Conference on Sustainable Development & Business Ethics and 2023 Workshop on Climate Change and Energy Finance.

Dr. Raymond Lavoie
Assistant Professor

Professor Raymond Lavoie is a well-being researcher, with a specific passion for the state of flow. He received his PhD from the University of Manitoba in 2017 and has been working in the United States since then, returning home to Canada to join the team at Telfer. Beyond advancing our understanding of well-being through the state of flow and how to achieve it, his research explores how consumers are impacted through their use of technologies like smartphones and virtual reality. Professor Lavoie's dedication to well-being extends beyond his research, as he is the Vice President of the Higher Learning Foundation, a non-profit organization that, among other initiatives, has created courses to be offered for credit in high schools that empowers teens to manage their mental health and to flourish. His role as a faculty member in Telfer will allow him to continue his innovative research program and to impart this knowledge on the students through his Consumer Behaviour classes.

Dr. Mathieu Bouchard
Assistant Professor

After obtaining a bachelor's degree specialized in applied economics, Professor Mathieu Bouchard worked for 8 years as a strategic advisor in investment management for large pension plans. During that period, he earned the Chartered Financial Analyst (CFA) professional designation and an MBA in action. He then completed a PhD in management, strategy and entrepreneurship at HEC Montréal, and a SSHRC-funded postdoctoral fellowship at uOttawa's Telfer School of Management. Professor Bouchard studies activism for sustainable policymaking. So far, his research has focused on the health care and education systems, but he is currently expanding his research program into the technology and transportation sectors. His research has been published in peer-reviewed journals including *Academy of Management Review*, *Nonprofit and Voluntary Sector Quarterly*, and *Journal of Ethics in Mental Health* in addition to several practitioner-oriented journals. He uses inductive, process-oriented qualitative research methods including organizational ethnography and discourse analysis.

Dr. Justin Boutilier
Assistant Professor

Professor Justin Boutilier's research focuses on developing and applying actionable analytics to solve health and humanitarian problems. He is interested in pursuing a diverse set of applications at the interface between predictive and prescriptive analytics, with a focus on global and planetary health. To support his work, Justin has received government, industry, and institutional funding for a wide range of problems including health clinic electrification, emergency response, tuberculosis treatment, diabetes management, and caregiving for Alzheimer's disease and related dementias. Justin's impactful work has been recognized by INFORMS: once winner (2024), once runner-up (2020), and twice finalist (2021, 2022) for the Pierskalla Best Paper Award, honorable mention for the Doing Good with Good OR Paper competition (2021), and as a PhD student, he won the Seth Bonder Scholarship for Applied Operations Research in Health Services (2017). Justin received a B.Sc. in Mathematics and Statistics from Acadia University, a Ph.D. in Operations Research from the University of Toronto, and he was a postdoctoral associate with the Humanitarian Supply Chain Lab and the Center for Transportation and Logistics

at MIT. Prior to joining Telfer, he was an Assistant Professor in the Department of Industrial and Systems Engineering at the University of Wisconsin Madison.

Prof. Jasmin Manseau
Lecturer

Professor Manseau is a Lecturer at the Telfer School of Management. His research focuses on emerging AI technologies, particularly natural language processing and intelligent assistants. He is interested in how these technologies drive workplace digitalization and reshape organizational strategies. His publications have been featured in leading academic outlets such as the *ACM Transactions on Management Information Systems*, the *Journal of Business Ethics* and leading information systems conferences, including AMCIS, PACIS and HICCS. His work has received several honours, including the Smith School of Business Research Excellence Award for New PhD Candidates. In 2021, he was honoured with the inaugural Part-Time Professor Telfer Award of Excellence for his outstanding contributions to teaching, research, and service to the community. Professor Manseau has extensive professional experience in both industry and consulting. He co-founded a consulting, project management, and software development firm in Gatineau. Before his entrepreneurial venture, he worked as a Management Consultant at Deloitte in Ottawa, focusing on strategy and operations. He also gained valuable field experience as a Field Engineer at Schlumberger in Alberta's oil and gas sector, specializing in reservoir evaluation and characterization.

ORAL PRESENTATIONS:

Shahryar Moradi

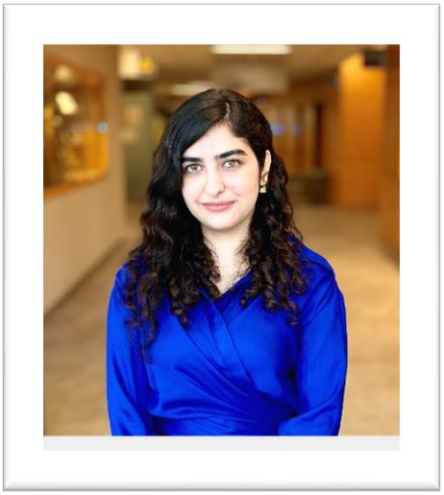
Shahryar Moradi has been a doctoral candidate in management since 2021, specializing in health systems at Telfer. He is currently under the supervision of Dr. Jonathan Patrick and Dr. Antoine Sauré. His academic foundation includes a BSc and an MSc in industrial engineering, both completed in Iran. Shahryar has contributed to various health-care projects, leveraging his expertise in elective surgery sequencing, patient appointment scheduling for radiotherapy centres and stroke prevention clinics, outpatient clinic operations management, and health-care data analytics. Shahryar has a strong background in operations research and statistics, and his doctoral research focuses primarily on the use of optimization methods, including MDP modeling, stochastic programming, and data-driven optimization, to address real-world problems. His work addresses challenges characterized by a high level of uncertainty, reflecting his commitment to advancing the field. In addition to his doctoral studies, Shahryar is a teaching and research assistant at Telfer, and teaches ADM2304 as a part-time professor in the Winter term. Shahryar won first prize in the Fourth Annual Telfer Thesis Competition, and the project he will present at this year's competition is related to emergency evacuation of vulnerable populations during wildfires, in collaboration with the National Research Council (NRC).

Using Advanced Analytics to Develop Supported-Evacuation Plans for Vulnerable Populations in Wildfires

Abstract: In response to the continuing threat of wildfires, advanced disaster management strategies have been developed to mitigate their severe consequences. Among them, evacuation planning is crucial, particularly when time constraints hinder immediate disaster response. A substantial body of literature focuses on planning self-evacuations, where civilians are expected to follow evacuation protocols and use personal or public transportation to leave the affected area. However, far fewer studies address supported evacuation, which involves assisting individuals in fire-affected areas who cannot evacuate independently—such as patients in hospitals, residents of long-term care facilities, and people with disabilities. These vulnerable groups, who represent a significant portion of the evacuee population, require authorities to organize transportation to safe locations using designated evacuation vehicles. To this end, we present a novel two-stage stochastic optimization model which accounts for multi-priority evacuees, diverse vehicle types, and different medical facilities. The model integrates facility location and vehicle routing decisions with the goal of maximizing the number of rescued patients within time-windows while optimizing cost-efficiency. An inherent challenge in solving such optimization problems is the lengthy time it often takes to compute optimal solutions for realistic instances. To overcome this, we propose an

efficient decomposition-based solution methodology that achieves optimal solutions for realistic-sized problems within reasonable timeframes (e.g., few minutes), by taking advantage of breaking one complex problem into many easy-to-solve sub-problems. To highlight the significance, we compare the results with alternative evacuation policies adopted from the common supported-evacuation protocols through extensive numerical experiments and simulations. The findings demonstrate significant improvements regarding performance criteria including shortening average transportation costs by opening shelters in optimal locations, using fewer evacuation vehicles, reducing the evacuation time, and having no evacuees left behind. We have validated the results on a case study based on the 2019 wildfire in Roxborough park in Colorado, US.

Maryam Vahabi



Maryam Vahabi is in her second year of a doctorate in health systems management at the Telfer School of Management, under the supervision of Dr. Rafid Mahmood and Dr. Christopher Sun. Maryam is working on leveraging vision-language models for object detection in medical images. She is also conducting research on real-time prediction of in-hospital cardiac arrest through the adoption of deep learning methods. She has coauthored a paper published in the *Journal of the American College of Cardiology*. Prior to joining Telfer, Maryam earned a master's degree in systems optimization from the Iran University of Science and Technology (IUST). Before that, she completed her bachelor's degree in industrial engineering at IUST. In her previous research, Maryam used machine learning methods to predict the risk of death in COVID-19 patients. Additionally, she collaborated with the Iranian Cancer Control Center on a comprehensive survey assessing the quality of life among cancer patients.

Leveraging Vision-Language Models for Object Detection in CT Images

Abstract: Medical image analysis is crucial in diagnostic radiology, providing essential information for clinical assessments, treatment planning, and monitoring. Advancements in artificial intelligence have led to the development of Vision Language Models (VLMs) that integrate visual and language processing capabilities. These models can interpret medical images, process textual inputs, and generate comprehensive descriptions, potentially enhancing diagnostic processes. By automatically recognizing objects in medical images, VLMs can support radiologists and alleviate time constraints and expertise barriers. This study aims to develop a VLM-based framework for object detection in CT scan images. We will assess the efficiency of VLMs such as GPT-4o and Llama 3.2 through an analytical framework that includes multiple performance assessment stages. First, a zero-shot evaluation will examine the intrinsic capability of VLMs to identify objects in CT images. Next, we will implement a few-shot learning

framework by providing the VLMs with a limited number of annotated CT images to test their ability to generalize from minimal examples. We will then incorporate visual clues to highlight regions of interest and assess the models' efficiency. Diagnostic performance for these scenarios will be evaluated using metrics such as F1-score, sensitivity, specificity, and overall accuracy through 10-fold cross-validation at both the patient level (assessing correct diagnoses across all organs for each patient) and the organ level (assessing diagnostic accuracy for each organ across all patients). Our goal is to demonstrate the potential of VLMs in medical image analysis, thereby improving patient management and addressing time and expertise constraints in this field.

Avery Hughes

Avery Hughes is enrolled in Telfer's MSc in Management program, specializing in organizational behaviour and human resources under the guidance of Dr. Silvia Bonaccio. Avery's research focuses on understanding the experiences of students living with disabilities, particularly in the context of job interviews. Her work aims to identify barriers and strategies that can inform more inclusive hiring practices. Raised in Colorado, Avery moved to Ottawa to pursue both academic and athletic opportunities, earning a volleyball scholarship that allowed her to excel as a student-athlete at uOttawa. She completed her undergraduate studies at the Telfer School of Management, where she earned her BCom in human resource management, graduating with distinction. Avery's research adopts a qualitative approach, using in-depth, semi-structured interviews to uncover the nuanced challenges faced by students with disabilities during job interviews. Her goal is to contribute to research that empowers organizations to develop equitable hiring practices and foster truly inclusive workplaces. Beyond her academic work, Avery remains active in the Ottawa community. She enjoys playing volleyball, exploring the city, and embracing outdoor activities like skiing, hiking, and cycling—pursuits that reflect her dynamic spirit and inspire her balanced, impactful approach to research.

Understanding the Lived Experiences of Students Living with Disabilities in Job Interviews

Abstract: The purpose of this research is to explore the phenomenon of how students living with disabilities experience job interviews. How do novice job applicants with lived experiences of physical, sensory, cognitive, or mental health disabilities experience job interviews? In order to better understand the first-hand lived experiences of these individuals, this study will employ qualitative data collection through the use of semi-structured interviews. In order to participate, individuals must be over the age of 19, have attended one or more interview in the last year, have a lived experience of a physical, cognitive, or mental health disability, and feel comfortable with conducting the interview

in English. Qualified participants will sign up on the Integrated System of Participation in Research (ISPR) Student Pool at the University of Ottawa, receiving 1.5 credits used towards class in exchange for participation. Interviews will last as long as 75 minutes and the interview data will be analyzed following Braun & Clarke's (2006) six-step thematic analysis. Participants interviewed to date have reported living with varied disabilities. Collectively, they have indicated living with chronic pain, chronic fatigue, chronic migraines, connective tissue disorders, anxiety, depression, ADHD, autism, borderline personality disorder, fluctuating levels of energy, and zoning out. Generalized anxiety was a common disability identity expressed by participants. A few salient, preliminary themes include temporality of anxiety, disability symptom management, masking, and disclosure. The job interview is an important first step towards successful employment for many candidates. For individuals with disabilities, this stage often presents additional challenges that go beyond the usual pressure that comes from an evaluation of qualifications and skills. There has yet to be a well-developed area of research that focuses on understanding how individuals with physical, sensory, cognitive, or mental health disabilities experience the job interview process.

Tarek Khalil

Tarek Khalil is a doctoral student in the Digital Transformation and Innovation program at the University of Ottawa, under the supervision of Dr. Mirou Jaana. His research focuses on the facilitators, barriers, and impacts of social robots in older adult care organizations, particularly how these technologies can improve the quality of care in long-term care settings while identifying the factors that influence their successful implementation. Tarek graduated with distinction from his undergraduate degree in mechanical engineering, and secured a full scholarship. He also earned a master's degree in business analytics, which further refined his analytical skills and his ability to address complex challenges in both business and technology contexts. With significant experience as a technical consultant, Tarek has developed expertise in digital transformation, robotic platform integration, and business technologies that enhance productivity and patient care. His research interests span health informatics and health-care management, particularly in the digitalization of health care and telehealth applications. Tarek is dedicated to leveraging his expertise in data analytics and technology to create innovative solutions that contribute to more efficient, compassionate, and technology-driven health-care environments.

Facilitators, Barriers, and Impacts of Social Robots in Older Adults' Care Organizations: An Umbrella Review

Abstract: The integration of Social Assistive Robots (SARs) into older adults' care organizations presents an innovative approach for addressing the needs of aging populations. Many studies have been published in this area but little is known about the evidence on their impacts and the facilitators/ barriers affecting their implementation and use. This umbrella review (a systematic review (SR) of systematic reviews) critically appraises and synthesizes evidence from SRs and meta-analyses (SR/MA) on SARs in older adult care organizations. Following the Preferred Reporting Items for Overviews of Reviews (PRIOR) guidelines, five databases—MEDLINE, CINAHL, EMBASE, Scopus, Cochrane (until August 2024)— were searched using predefined terms covering older adults, care organizations, and SARs. Two independent reviewers screened the studies based on inclusion and exclusion criteria, and a coding scheme was developed to extract pertinent data from each review. Out of 775 reviews, 29 (21 SR, 2 MA, 6 SR+MA) between 2012-2024 across 19 countries (commonly in Europe) met inclusion criteria. 26 SAR's types were studies mostly in nursing homes; PARO was the most used. SARs were found to significantly reduce agitation, depression, loneliness, and improve engagement, mood, and quality of life. Facilitators included: useability (e.g., intuitive interface); technical characteristics (e.g., human-like voice); perceived benefits (e.g., belief that SARs facilitate social connectedness). Barriers included: useability (e.g., lack of user-centered design); high costs; healthcare professionals' negative preconceptions of robots (e.g., belief that their jobs will be replaced). SARs demonstrate significant positive impacts on older adults' psychological wellbeing and quality of life, although future research requires more rigorous studies to confirm their effects across subgroups of older adults. The results can inform management and policy changes to leverage the potential of SARs in addressing the mounting challenges related to social isolation and loneliness in long-term care given staff shortage and burnout.

Danielle Cruise

Danielle Cruise is a doctoral student in management, with a specialization in health systems under the supervision of Dr. Mirou Jaana. Danielle is interested in exploring organizational resilience and performance in long-term care homes, and is a recipient of the 2024-2025 Ontario Graduate Scholarship. In her previous studies, Danielle obtained a bachelor's degree in public health from the University of Waterloo and an MSc in health systems from the Telfer School of Management. Her master's thesis explored the factors that managers consider to inform their decision to adopt health information technology in long-term care homes. Danielle has presented her work at several conferences, including the Canadian Association on Gerontology, the Canadian Association for Health Services and Policy Research, and the AGE-WELL Annual Conference, among others. She was also a finalist in the SSHRC's Storytellers

Competition, where she communicated the impact and relevance of her research in a 300-word infographic. Danielle also attended the 2024 CIHR Summer Program on Aging, held in Vancouver, British Columbia.

Understanding Resilience and Performance in Long-Term Care Homes: A Comprehensive Assessment

Abstract: Long-term care (LTC) homes (i.e., organizations that provide 24-hour nursing and personal care) operate in unpredictable and resource-constrained environments (e.g., unstable funding, limited human resources, etc.). As evidenced during the COVID-19 pandemic, there are significant challenges in assessing and managing the performance of LTC homes, their resilience in times of crises, and the key success factors (i.e., attributes, competencies, and capabilities) that affect the performance of LTC homes. This research proposes three studies that investigate the relationship between resilience and performance in LTC homes. Study 1 consists of a scoping review that will be conducted following the PRISMA-ScR guidelines to identify the breadth and nature of the evidence on resilience in LTC organizations. Study 2 consists of a three-round iterative Delphi survey (i.e., brainstorming, narrowing down, and ranking rounds) with a panel of 25 LTC managers/directors to identify and prioritize a list of key success factors that are important pre-requisites for performance in LTC homes. Last, study 3 will involve a survey of all LTC homes in Ontario to assess their organizational characteristics and resources, and examine the relationship between resilience (i.e., based on the study 1 findings), key success factors (i.e., based on the study 2 findings), and performance. This research will contribute to our understanding of resilience in LTC and provide insights on the impacts of resources and resilience on performance in LTC homes, which will be relevant for other small-medium enterprises that operate in resource-constrained environments. It will support the development of a conceptual model that presents the relationship between resilience and organizational/contextual factors that affect performance in LTC homes. From a practical perspective, these findings will inform policymakers on the most relevant factors affecting performance in the LTC sector, which can guide resource allocation and better planning, management, policy changes, and provincial initiatives.

Meg Schwellnus

Meg Schwellnus is a first-year doctoral student in Telfer's management program, specializing in health systems. Under the supervision of Dr. Samia Chreim and Dr. François Durand, she is interested in improving environmental sustainability within Canada's health systems. Specifically, her work focuses on the implementation of environmentally sustainable initiatives in hospitals, and how management can support these initiatives to ensure higher impact and long-term success. Prior to joining the PhD program, Meg worked in health research for five years from a variety of perspectives. Her experience includes design work to reduce suffering in end-of-life care, genetic engineering that aimed to develop a new transplant treatment, and healthy aging research that focuses on maintaining independence in driving and aging in place. She holds a bachelor's degree in industrial design, a BSc in biology, and a MEng in biomedical engineering.

Sustainability initiatives in hospitals need top-down support! But how?

Abstract: Climate change worsens human health, and healthcare produces approximately 5% of global carbon emissions. Healthcare systems must reduce their carbon emissions, as with climate change continuing, the burden on the healthcare system will increase. Department-level bottom-up initiatives improving a hospital's sustainability have been attempted, but they need to be scaled up to achieve the reductions in emissions that will help Canada achieve the goals set by the Paris Agreement and COP26. Upper levels of healthcare management need to support improving hospital sustainability to increase reductions of carbon emissions. The question is: How? A literature review concerning environmentally sustainable initiatives will be performed to evaluate gaps in support from upper management. Semi-structured interviews with planetary health committee members of Ottawa hospitals and the uOttawa Planetary Health Lab will be performed to understand where support from upper management can be best leveraged to scale up initiatives, and what form of support (financial, policy, operational) would be most helpful. Secondary hospital sustainability data would support analysis and situation comprehension. Recommendations for how to support and upscale environmentally sustainable initiatives in hospitals will be developed, based on interview findings and secondary data. It is expected that new public policy calling for and supporting environmental sustainability initiatives for hospitals will be the best solution to upscaling these initiatives, as it can affect the largest number of hospitals, and could mobilize other routes of support such as financial means. Policy recommendations would be developed and made to Canadian Institutes of Health Research, who can send it forward. Urgent action is needed to achieve the Paris Agreement carbon emissions goals, and healthcare must reduce their climate impact to help Canada achieve these goals. Large-scale efforts and upper management support are needed to fully mobilize the healthcare system towards a greener future.

Amanda Kutenski

Amanda Kutenski is a second-year student in the MSc Health Systems program under the supervision of Dr. Mirou Jaana. Before pursuing graduate studies, she obtained an honours bachelor's degree in interdisciplinary health sciences, specializing in health technologies at the University of Ottawa. During her undergraduate studies, Amanda participated in a research project with the SHERPA Research Institute, studying the impacts of COVID-19 on health and social services delivery for allophone communities in Quebec. This experience ignited an interest in innovative health-care service delivery. Her thesis explores this interest by examining the effects of electronic medical records systems on quality of care from the perspective of physicians at the University of Ottawa Heart Institute. She currently holds a 2024-2025 CGS-M award from CIHR for her student thesis work. As part of her master's program, Amanda completed an internship in which she evaluated the use of an assistive technology device three months post-implementation, for older adults with cognitive impairment at Perley Health, Ottawa's largest long-term care home. In October 2024, Amanda presented her research findings at the Canadian Association for Gerontology and Geriatrics conference, through which she first-hand experience in working with various stakeholders and learned about the challenges of technology implementations and partnered research. Amanda hopes to continue deepening her experiences in technology implementation within the health-care sector to tackle and reduce system-level challenges affecting service users and providers.

Use and Implementation of a Socially Engaging Assistive Technology in LTC: Perspective of diverse stakeholders

Abstract: Long term care (LTC) homes experience difficulties engaging residents, particularly those with cognitive impairment. Lack of stimulation often leads to feelings of social isolation, loneliness and depression, thus affecting the residents' quality of life (QoL). Perley Health (Ottawa's largest long term care home), implemented four Magic Tables (MT) to engage residents. 3-month post implementation, this research aims to: 1) evaluate the MT's use by residents; and 2) assess the perspectives of caregivers on the challenges related to its use and its impacts on residents. Employing a mixed methods strategy, 29 semi-structured non-participant observations and 8 homogeneous focus groups (i.e., family members, volunteers, managers, nurses, PSWs and allied health staff) were conducted. Two coders performed thematic analysis of field notes/transcripts using NVivo. Descriptive data analysis was conducted on SPSS to present the profile of participants. The observations (median = 3 games/session) were recorded over 2.5 months post-implementation. 34 residents used the technology in the morning/afternoon (median = 16 minutes/session) mostly accompanied by staff. Based on the Apparent Emotion Rating (AER) Instrument, most residents expressed signs of interest, pleasure and tranquility when using the MT. 36 caregivers participated in the

focus groups and reported benefits of the MT and barriers/ facilitators related to organizational support, location of the technology and competing task priorities (i.e., direct patient care versus social care). The MT present opportunities for LTC residents' engagement and its benefits are optimized if used while accompanied with caregivers. Its sustainability can be facilitated by staff education/training and managerial support to ensure its integration in front-line staff workflows. The results serve as a benchmark for other LTC homes planning considering innovations for residents' engagement; it is recommended that they obtain end-users' feedback early during implementation to ensure that the technology is integrated in the care they deliver.

Matin Najarashtiani

Matin Najarashtiani is a doctoral candidate in Digital Transformation and Innovation at the Telfer School of Management. She holds a master's degree in computer science from the University of Tehran and a bachelor's degree from Sharif University of Technology, both in Iran. Matin has gained professional experience in natural language processing (NLP) and large language models (LLMs) through her internship at Ciena and her work with Natural Resources Canada, where she applied cutting-edge AI techniques to address complex, real-world challenges. Her doctoral research focuses on advancing fraud detection in financial statements by integrating numerical data with textual analysis using AI-driven techniques, including machine learning models and natural language processing. Her work leverages these technologies to enhance the accuracy of fraud detection, and has the potential to significantly impact corporate governance and transparency in financial reporting. Matin is passionate about leveraging advanced AI technologies to drive innovation, combining her academic expertise and industry experience to create meaningful, real-world solutions.

An AI-Driven Hybrid Framework for Financial Statement Fraud Detection Using Numerical and Textual Data

Abstract: This study proposes an AI-driven framework for financial statement fraud detection (FSFD) that integrates both numerical and textual data from U.S. companies' financial statements. The framework aims to improve fraud detection by analyzing both data types and identifying the most informative variables and sections that reveal fraudulent activities. The proposed AI-driven framework for FSFD integrates numerical and textual data from U.S. financial statements. It uses two main streams: one for numerical data and another for textual data, combined through a hybrid meta-learning architecture of neural networks and transformer models within a cost-sensitive framework. This AI-enabled hybrid approach addresses FSFD challenges by weighting misclassification costs, thus improving detection accuracy. In the textual stream,

advanced Natural Language Processing (NLP) techniques transform textual data into meaningful variables, further enhancing fraud detection performance. The results show that integrating textual data with numerical financial metrics significantly enhances FSFD model performance. The AI-driven meta-learning framework, which combines insights from independent streams using diverse learning architectures, enhances the overall robustness of the model. This study presents a pioneering approach to FSFD by leveraging both numerical variables and text-based information, offering a fresh perspective to the current literature and addressing gaps in traditional fraud detection methods. This research leveraged AI to develop an innovative FSFD model that combines state-of-the-art NLP techniques with meta-learning for enhanced fraud detection. The models have been fully developed and tested, with results demonstrating that our architecture is highly effective and outperforms existing methods in literature. By analyzing key sections of text and critical numerical variables, the model offers valuable insights that enable auditors and financial managers to detect fraud more accurately. The findings have significant implications for both academia and industry, pinpointing areas in financial statements where fraudulent patterns may emerge, thereby improving decision-making and risk assessment processes in financial management.

POSTER PRESENTATIONS:

Soroor Motie

Soroor Motie is a doctoral student at the Telfer School of Management. Her research centres on the application of machine learning techniques to detect financial fraud. Her interest in integrating artificial intelligence into business is evident in her contributions, which include participation at various conferences and publication in journals such as the *Journal of Expert Systems with Applications and Enterprise Information Systems*. Soroor's academic journey began at Iran University of Science and Technology, where she excelled as the top-ranking student for seven consecutive terms during her undergraduate degree. This exceptional performance led to her acceptance to a master's program at Sharif University of Technology, where her academic work was particularly noteworthy, especially in terms of her master's thesis, which focused on advances in graph generative models. Her research interest lies primarily in graph and network modeling and in using graph neural networks to tackle various machine learning problems. This approach highlights her skill in adapting complex AI techniques to solve real-world problems. Beyond academia, Soroor has been the chief editor of a student academic journal and an active volunteer. She is also interested in translating her research into viable business ideas, a drive that has earned her multiple first-place awards in pitch competitions, including at the Rev-Up Circuit Business Idea Competition and the Simon Nehme

Entrepreneurship Competition at the University of Ottawa. Her diverse skill set is further enriched by her experience as an applied AI scientist intern at the Vector Institute and by multiple internships across five companies, showcasing her ability to bridge the gap between academic research and industry applications.

Financial Fraud Detection with Graph Neural Networks Using Graph Pre-Training Framework

Abstract: Financial fraud detection is a challenging task with severe impacts on individuals, businesses, and economies. As fraudulent activities grow more complex, traditional rule-based and machine learning methods often struggle to uncover the intricate relationships and hidden patterns within financial networks. Graph Neural Networks (GNNs) present a promising solution by capturing dependencies between entities in financial transaction networks, enabling the detection of patterns and anomalies missed by other methods. To enhance GNN performance, this research introduces pre-training techniques that allow models to learn general knowledge from large labeled datasets, which can then be fine-tuned for specific fraud detection tasks. Our core research question explores whether pre-training GNNs on related financial graphs can improve detection performance and generalizability. This study proposes a modular, adaptable pre-training framework for GNNs to effectively transfer structural knowledge from broad datasets to fraud-specific tasks. In machine learning, pre-training on a large labeled dataset is a common approach to transfer general knowledge to domain-specific tasks. This method is widely used in fields like natural language processing (e.g., BERT) and computer vision (e.g., ResNet), where models are first trained on broad datasets and later fine-tuned for specific tasks. Pre-training, the main methodology of this study, enables a model to learn general patterns, developing robust representations that can be adapted to smaller, task-specific datasets. Fine-tuning then allows the model to adjust to the unique characteristics of the target dataset, improving performance by leveraging the broader context learned during pre-training. Our results indicate that pre-training on the DGraphFin dataset followed by fine-tuning on the Elliptic dataset improves detection accuracy, demonstrating the potential of structured transfer learning for enhanced generalizability in fraud detection. This study contributes a comprehensive pre-training framework for GNNs tailored to financial fraud detection, providing an adaptable approach to explore a variety of questions in the field.

Shaista Jaffer

Shaista Karim Sadrudin Jaffer is a doctoral candidate in finance at the Telfer School of Management. Her research focuses on the intersection of corporate finance and labour economics, exploring how financial strategies influence workplace equity and dynamics. She is supervised by Dr. Ali Akyol, under whose guidance she is examining the strategic use of share repurchases and their implications for labour relations. During her studies to earn an MSc in Finance from Telfer, Shaista published a book chapter in *CryptoFinance* and explored Bitcoin's role as a hedge during the COVID-19 pandemic. Last summer, she published two chapters in an open educational resource, *The FinTech Explorer*. She has also designed and taught an undergraduate course, "FinTech," and created a junior high level mini-course, "AI & Business: What's the Link?" to introduce young learners to the transformative role of technology in business. Outside of the university, Shaista is a founding member of All Seasons Indian Catering, Tree of Africa Foods, and SKJ Superior Solutions Ltd. Her drive to connect rigorous academic research with real-world applications continues to shape her academic journey and entrepreneurial pursuits.

The Strategic Use of Share Repurchases

Abstract: During the early stages of the COVID-19 pandemic, Canada's unemployment rate rose sharply to 13.7% as it lost two million jobs. In response, Canada implemented financial support programs, but the human costs of unemployment, including stress, health issues, and malnutrition, were significant. The expectation is for firms to factor in these human capital costs when making financial decisions, such as avoiding excessive leverage to reduce the risk of bankruptcy. Employees value job security and may demand higher wages to compensate for potential job losses, especially in firms with high leverage. Recently, firms have increasingly engaged in share repurchases (buying back their own shares from the stock market), spending significantly more on this activity than in previous years. Critics argue that share repurchases can undermine productivity and employment stability by disconnecting wages from productivity growth. In this project, we aim to explore how share repurchases impact labor dynamics, specifically whether they are used to benefit or disadvantage employees. The findings will contribute to finance literature, inform policymakers and firms, and provide valuable insights for researchers in other disciplines.

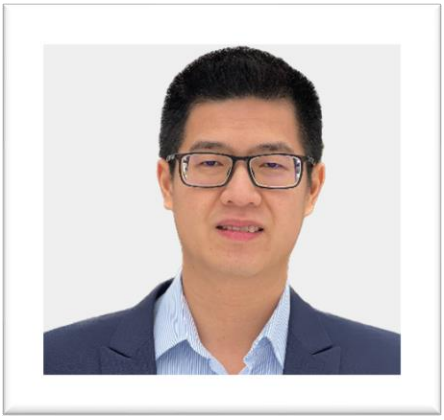
Jiaxiang (Leo) Wang

Leo Wang is a doctoral candidate at Telfer, specializing in accounting and control, under the supervision of Professor Cheryl Susan McWatters. His research interest is the financial reporting of goodwill and intangible assets. Specifically, his thesis aims to explore how US public companies measure and report acquired goodwill and intangible assets, and how these accounting decisions are affected by the firm's economic situation. He takes advantage of generative AI extensively in his research, which allows him to obtain much larger samples compared to traditional archival accounting research in this field. In his spare time, he plays saxophone to relax, exploring a wide range of musical genres, including classical, jazz and pop. Playing music has greatly helped him relieve the stress of conducting intensive research. He has published his cover of songs on a number of platforms, including YouTube, WeChat, and BiliBili.

An Empirical Analysis of Goodwill and Intangible Assets Impairment

Abstract: The accounting treatment for business combinations has long been an important but thorny issue. Current accounting standards require companies to recognize intangible assets separately from goodwill in business combinations. My research aims to address whether firms have an impairment preference between goodwill and intangible assets when an impairment loss must be recognized according to the accounting standard. Prior research has suggested that there is much subjectivity involved in the impairment testing from the top management. However, there is little discussion on whether and how impairment is allocated between goodwill and intangible assets. Therefore, my research questions are: 1. Do US firms allocate impairment between goodwill and trademarks? 2. What factors contribute to the impairment allocation between goodwill and trademarks? I plan to use econometric methods to explore the relationship between the trademark impairment and the status of the trademarks as collateral. In contrast to prior research that relies on hand-collected intangibles data, I plan to use AI to process information from the SEC filings and save the information in a machine-readable format. This approach allows me to collect data at a bigger scale, with a higher accuracy, and in greater detail. Lastly, I am going to take advantage of the USPTO database to collect trademark collateral information. The expected result is that firms that use trademarks as collateral record less trademark impairment and more goodwill impairment, compared with firms that do not use trademarks as collateral. I expect my research to contribute to the ongoing debate on the accounting treatment for acquired intangibles. In conclusion, my research uses an innovative approach to data collection and examines how firms account for acquired goodwill and trademarks in practice. I expect my research to provide some new empirical evidence on the impact of current accounting standards.

Tin Pham



Tin Pham is a doctoral candidate in the Digital Transformation and Innovation program, under the supervision of Dr. Bijan Raahemi. He earned his MSc in management information systems in 2019 at Heilbronn University, Germany. Tin has also been awarded a QEII-GSST scholarship for his research project. He is interested in the challenges associated with detecting outliers, specifically financial fraud. He focuses on designing and developing metaheuristic techniques to reduce high-dimensional financial data, which will facilitate fraud detection. Tin and his supervisor are experimenting with quantum-based, bio-inspired algorithms to enhance financial fraud detection in the context of high-dimensional data. Since 2010, Tin has been working in various data analytics positions, from solution architect to project manager, which has helped him gain diverse experience in enterprise data solutions. Additionally, Tin has actively contributed to the academic community by peer-reviewing publications in esteemed journals, including *IEEE Access and Algorithms*.

A quantum-based bio-inspired feature selection algorithm for financial fraud detection

Abstract: Detecting outliers (data points that are significantly different than the majority of the data, such as financial frauds or network attacks) is often expensive, imprecise, and time-intensive when employing manual inspections or machine learning techniques, given the volume and complexity of the data. This research addresses this challenge by developing an effective bio-inspired feature selection (BIA-FS) method for detecting outliers, particularly financial frauds. Our study follows the Design Science Research Methodology process by Peffers et al. (2007). To commence, we conducted a systematic literature review (SLR) of bio-inspired feature selection in the context of financial fraud detection to investigate prior knowledge and identify gaps in the related literature. Based on our findings, we then developed a novel genetic feature selection algorithm (QGA) for financial fraud detection, leveraging quantum theory. Preliminary experiments against established methods using various financial fraud datasets demonstrated the superior performance of our QGA, surpassing baseline techniques. Moving forward, we will fine-tune our QGA to enhance its performance and robustness. Subsequent to the QGA's development, we will derive a framework with guidelines to integrate quantum concepts into BIA-FS. Our final objective is to implement the proposed QGA on distributed platforms, leveraging parallelization to optimize processing time. We aim to enhance the scalability and efficiency of our algorithm, ensuring its practical viability in real-world financial fraud detection scenarios. This study presents two key contributions. Theoretically, it pioneers the exploration of financial fraud detection using a bioinspired feature selection algorithm. From a practical standpoint, the immediate impact lies in its ability to boost revenue for businesses. By proactively preventing fraud, the study facilitates the identification of reliable customers, strengthens customer relationships,

and safeguards the reputation of businesses. Additionally, implementing the proposed QGA on distributed platforms ensures optimal performance and scalability, further benefiting organizations.